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DISCRETE OPTIMIZATION

Editorial

Welcome to DO

Combinatorics and optimization, the two major components of modern applied mathematics, have experienced a rapid and tumultuous development over the last 50 years. Discrete mathematics and optimization have grown, matured, and continue to grow at a spectacular rate and intensity. Their scope, importance, and impact have been increasing dramatically: from isolated studies, to the establishment of core disciplines in the mathematical sciences; from the discussion of puzzles to providing the foundations on which computer science, operations research, artificial intelligence, machine learning, data mining, and other new sciences are built; from counting the ways to seat the guests at a dinner party, to minimizing the number of aircraft required to meet the needs of an airline company, or the best way of building a supercomputer, or finding proteomic patterns for cancer detection.

The parallel development of these two disciplines has provided numerous opportunities for interactions, which have eventually culminated in the emergence of their progeny, discrete optimization. Discrete optimization is faithful to family traditions, proud of its roots in pure and applied mathematics, is conscious of its close relationship with computer science and operations research, and cultivates its close association with engineering and the continuously expanding areas of the computational sciences.

Our new journal Discrete Optimization (DO) came into existence as a result of this impressive process of evolution and expansion. It joins its older sister journals Discrete Mathematics (now 33) and Discrete Applied Mathematics (now 25), preserving their quest for quality and their desire to serve the research community.

In our view Discrete Optimization should cover the two principal components of discrete optimization: combinatorial optimization and integer programming. It should deal with the mathematical foundation of discrete optimization, with its algorithmic and computational aspects (both on the theoretical and the experimental level), and should reflect and encourage its potential and demonstration applicability.

We are enormously indebted to our friends and colleagues, who have shown their confidence in the ability of Discrete Optimization to serve the needs of discrete optimization by joining our Editorial Board and/or allowing us to include their latest papers in our new publication. And to the question "To DO or not to DO?" they have given the resounding answer: "That is not a question!".

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